

The invention claimed is:

- 1 1. A method of forming an inflatable balloon that comprises  
2 providing a distensible sleeve having a first end and a second  
3 end;  
4 wrapping at least one end of the sleeve with a tape to render  
5 the wrapped end non-distensible while retaining distensibility of unwrapped  
6 portions of the sleeve.
- 1 2. The method of claim 1 that further comprises providing as the sleeve  
2 a sleeve comprising a polytetrafluoroethylene.
- 1 3. The method of claim 2 that further comprises providing as the sleeve  
2 a sleeve comprising a porous polytetrafluoroethylene, the sleeve being  
3 combined with an elastomeric material to render it liquid-tight.
- 1 4. The method of claim 1 that further comprises  
2 providing a catheter shaft;  
3 attaching at least one of the first end and second end of the  
4 sleeve to the catheter shaft.
- 1 5. The method of claim 4 that further comprises  
2 attaching the at least one of the first end and second end of the  
3 sleeve using an adhesive at least in part.
- 1 6. The method of claim 4 that further comprises exposing wrapped  
2 balloon ends to elevated temperatures following wrapping to help attach at  
3 least one of the first end and the second end to the catheter shaft.
- 1 7. The method of claim 6 that further comprises removing the tape  
2 from at least one of the first end and second end following exposure to  
3 elevated temperature.
- 1 8. The method of claim 1 that further comprises  
2 attaching the sleeve to a catheter shaft to form a balloon;  
3 inflating and deflating the balloon prior to use.
- 1 9. The method of claim 1 that further comprises  
2 providing a catheter shaft;  
3 positioning the sleeve over the catheter shaft; and  
4 wrapping at least one end of the sleeve over the catheter shaft.
- 1 10. The method of claim 1 that further comprises  
2 providing a catheter shaft; and  
3 mounting an end of the sleeve within the catheter shaft.

- 1 11. A balloon catheter device made in accordance with claim 1.
- 1 12. A method of forming an inflatable balloon comprising
- 2 providing a distensible sleeve having a first end and a second
- 3 end;
- 4 treating at least one end of the sleeve prior to mounting on a
- 5 catheter shaft to render the end non-distensible while retaining distensibility of
- 6 other portions of the sleeve.
- 1 13. The method of claim 12 that further comprises treating the at least
- 2 one end to render it non-distensible by wrapping it with a tape.
- 1 14. The method of claim 12 that further comprises rendering the at
- 2 least one end of the sleeve non-distensible by wrapping the at least one end
- 3 with a tape.
- 1 15. The method of claim 12 that further comprises providing as the
- 2 sleeve a sleeve comprising a polytetrafluoroethylene.
- 1 16. The method of claim 15 that further comprises providing as the
- 2 sleeve a sleeve comprising a porous polytetrafluoroethylene, the sleeve being
- 3 combined with an elastomeric material to render it liquid-tight.
- 1 17. The method of claim 12 that further comprises
- 2 providing a catheter shaft;
- 3 attaching at least one of the first end and second end of the
- 4 sleeve to the catheter shaft.
- 1 18. The method of claim 17 that further comprises
- 2 attaching the at least one of the first end and second end of the
- 3 sleeve using an adhesive at least in part.
- 1 19. The method of claim 12 that further comprises rendering the at
- 2 least one end non-distensible by exposing the at least one end to elevated
- 3 temperatures.
- 1 20. The method of claim 12 that further comprises
- 2 attaching the sleeve to a catheter shaft to form a balloon;
- 3 inflating and deflating the balloon prior to use.
- 1 21. The method of claim 12 that further comprises
- 2 providing a catheter shaft;
- 3 positioning the sleeve over the catheter shaft; and
- 4 wrapping at least one end of the sleeve over the catheter shaft.
- 1 22. The method of claim 12 that further comprises

- 2 providing a catheter shaft; and  
3 mounting an end of the sleeve within the catheter shaft.
- 1 23. A balloon catheter device made in accordance with claim 12.
- 1 *sub A15* 24. A sleeve adapted to be formed into an inflatable balloon comprising  
2 the sleeve having a first end, a second end, and a middle section;  
3 wherein at least one of the ends is non-distensible while the  
4 middle section of the sleeve is distensible.
- 1 25. The sleeve of claim 24 wherein the sleeve is mounted on a  
2 catheter shaft to form an inflatable balloon.
- 1 26. The sleeve of claim 25 wherein the sleeve forms a liquid-tight seal  
2 at the ends to the catheter shaft.
- 1 27. The sleeve of claim 24 wherein the at least one end is tape  
2 wrapped to render it non-distensible.
- 1 28. The sleeve of claim 24 wherein the at least one end is coated to  
2 render it non-distensible.
- 1 29. The sleeve of claim 24 wherein the at least one end is thermally  
2 treated to render it non-distensible.
- 1 30. The sleeve of claim 24 wherein the at least one end is covered with  
2 an essentially non-distensible material to render it non-distensible.
- 1 31. The sleeve of claim 30 wherein the essentially non-distensible  
2 material comprises a reinforcing collar.
- 1 32. The sleeve of claim 24 wherein the at least one end is attached  
2 with adhesive to a non-distensible material to render it non-distensible.
- 1 33. The sleeve of claim 24 wherein the sleeve comprises a  
2 fluoropolymer.
- 1 34. The sleeve of claim 33 wherein the fluoropolymer comprises a  
2 polytetrafluoroethylene.
- 1 35. The sleeve of claim 25 wherein the at least one end is tape  
2 wrapped to render it non-distensible.
- 1 36. The sleeve of claim 25 wherein the at least one end is coated to  
2 render it non-distensible.
- 1 37. The sleeve of claim 25 wherein the at least one end is thermally  
2 treated to render it non-distensible.
- 1 38. The sleeve of claim 25 wherein the at least one end is covered with  
2 an essentially non-distensible material to render it non-distensible.

- 1 39. The sleeve of claim 38 wherein the essentially non-distensible  
2 material comprises a reinforcing collar.
- 1 40. The sleeve of claim 25 wherein the at least one end is attached to  
2 a non-distensible material to render it non-distensible.
- 1 41. The sleeve of claim 25 wherein the sleeve comprises a  
2 fluoropolymer.
- 1 42. The sleeve of claim 41 wherein the fluoropolymer comprises a  
2 polytetrafluoroethylene.